

## **REMARKS**

### ***Prosecution***

Applicants respectfully request reconsideration of the outstanding rejections in view of Applicants' instant claim amendments and the following Remarks.

### ***Claim Amendments***

Claims 13-17, 34-39, 42-44, 48-52, 56, and 58-62 will be pending on entry of the instant amendments in this application. Claims 40-41 are cancelled without prejudice or disclaimer as to the subject matter contained therein. Applicants respectfully reserve the right to pursue the subject matter of the cancelled claims in one or more continuation or divisional applications. Claim 62 has been added. Support for the new claim can be found through out the specification and in particular, at page 6, lines 11-15 and page 19, lines 24-26. Applicants respectfully request entry of this amendment and submit that it does not introduce new matter.

### ***35 U.S.C. § 112, second paragraph***

Claims 40-42 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite because claims 40-42 allegedly do not further limit claim 13. Applicants respectfully disagree and traverse this rejection.

Claims 40-41 have been cancelled rendering this rejection *moot*. To the extent that the rejection pertains to claim 42, Applicants make the following response.

According to the Federal Circuit, "it is well established that 'claims are not to be read in a vacuum, and limitations therein are to be interpreted in light of the specification in giving them their 'broadest *reasonable* interpretation.'" In re Marosi, 710 F.2d 799, 802, 218 U.S.P.Q. 289, 292 (CCPA 1983) (*quoting In re Okuzawa*, 537 F.2d 545, 548, 190 U.S.P.Q. 464, 466 (CCPA 1976)).

"Definiteness problems often arise when words of degree are used in a claim. That some claim language may not be precise, however, does not automatically render a claim invalid." Seattle Box v. Ind. Crating and Packing, 731 F.2d 818, 826, 221 USPQ 568, 573-574 (Fed. Cir. 1984). Regarding issues of definiteness of claim language, particularly the phrase "capable of reducing the oxygen content in an edible product", "the question becomes whether one of ordinary skill in the art would understand what is claimed when the claim is read in light of the

specification.” BJ Services v. Halliburton Energy Services, 338 F.3d 1368, 67 USPQ2d 1692 (Fed. Cir. 2003). Applicants submit that one of ordinary skill in the art would understand that claim 42 specifies that the culture of claim 13 be capable of reducing the oxygen content in an edible product.

Reconsideration and withdrawal of the rejection is respectfully requested.

**35 U.S.C. § 103(a)**

Claims 13-17, 35-39, 43, 44, and 58-61 were rejected under 35 U.S.C. §103(a) as allegedly unpatentable over U.S. Patent No. 5,075,226 Kaneko *et al.* (December 24, 1991) (“Kaneko *et al.*”) Applicants respectfully disagree and traverse this rejection.

A proper obviousness rejection of patent application claims under 35 U.S.C. § 103(a) requires a showing by the USPTO that the invention defined in the rejected claim(s) as a whole is obvious in view of one reference or a combination of the references. M.P.E.P. § 2142. Three basic criteria must be met to support a *prima facie* case of obviousness: (a) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine the reference(s) teachings; (b) there must be a reasonable expectation of success; and (c) the prior art reference (or references when combined) must teach or suggest all the claim features. M.P.E.P. § 2143. Here, the cited reference does not suggest to a person of ordinary skill in the art the invention of claim 13.

In accordance with In re Lee, it is improper for the USPTO to make a rejection under 35 U.S.C. § 103(a) by citing references and asserting that it would have been obvious to modify the reference in the absence of evidence supporting the assertion that there is a teaching, motivation or suggestion to select and modify the disclosure of Kaneko *et al.* 277 F.3d 1338, 61 U.S.P.Q.2d 1430, 1434 (Fed. Cir. 2002). To establish a *prima facie* case of obviousness of a claimed invention, the Office Action must establish that each limitation of the rejected independent and dependent claims is taught or suggested by the prior art. M.P.E.P. § 2143.03.

The pending claims are drawn to an isolated starter culture comprising at least one modified lactic acid bacterial cell wherein said at least one modified lactic acid bacterial cell comprises at least 0.1 ppm on a dry matter basis of a porphyrin compound which includes iron,

wherein said at least one modified lactic acid bacterial cell is obtainable by culturing in a medium containing a protoporphyrin compound or its complexes with an iron atom, wherein said starter culture is in the form of a frozen or freeze-dried culture, and wherein said starter culture comprises an amount of viable modified lactic acid bacterial cells which is at least  $10^8$  CFU per gram. Applicants respectfully submit that there is no teaching in Kaneko *et al.*, nor a suggestion to modify the teachings of Kaneko *et al.*, to obtain the claimed isolated starter culture of claim 13.

Applicants note that the Advisory Action states that Kaneko *et al.* disclose that, “*Lactococcus lactis* from the ATCC... cells are delivered either as frozen liquid or freeze dried with a cryoprotectant added; and the patent [Kaneko *et al.*] also teaches using concentrations of 1-2% in inoculations as starter culture...concentration exceeds the requirement of  $10^{12}$  CFU.” Advisory Action on Continuation Sheet. The Advisory Action concludes that it would be obvious that the culture solution of Kaneko *et al.* results in the claimed start culture.

Applicants respectfully submit that the bacterial cultures as described by Kaneko *et al.* are used to produce diacetyl and acetoin, but there is no discussion or contemplation of isolating any starter culture from the fermentation process. Additionally, the Advisory Action asserts that, “...Kaneko *et al.* teach[es] the use of *Lactococcus lactis* from the ATCC..., which cells are delivered either as frozen liquid or freeze dried with a cryoprotectant added...” Advisory Action on Continuation Sheet. Kaneko *et al.*, however, is silent on the subject of the form of the *Lactococcus lactis* cells, and does not mention freeze-dried, frozen, or starter cultures.

As stated previously, Kaneko *et al.* describe the use of bacterial cultures to produce diacetyl and acetoin. See Id. at Col. 3-4. These bacterial cultures as described by Kaneko *et al.* are used to produce diacetyl and acetoin, but there is no discussion or contemplation of the isolation or harvesting of these bacteria from the end products *following completion of the fermentation process* described in Kaneko *et al.* for any use, much less as an isolated starter culture. See Id. at Examples 1-5. Therefore, Kaneko *et al.* fails to provide a suggestion or motivation to isolate or harvest bacteria at the completion of his claimed process for the purpose of making a frozen or freeze-dried starter culture. For at least these reasons, Kaneko *et al.* does not provide motivation or suggestion to modify its disclosure in any manner and does not teach or suggest all of the claim elements.

Further, dependent claims 14-17, 35-39, 43-44, and 58-61 are directed to additional features of the invention and their patentability needs to be considered separately from that of claim 13. However, because claim 13 is not obvious for the reasons set forth herein, Applicants submit that the claimed depending from claim 13 are also not obvious.

Therefore, reconsideration and withdrawal of this rejection is respectfully requested.

***Objection to the Claims***

Claims 34, 48-52, and 58-61 were objected to as depending from a rejected claim. Applicants submit that claim 13 is now in condition for allowance thereby rendering this objection *moot*.

**CONCLUSION**


An indication of allowance of all claims is respectfully solicited. Early notification of a favorable consideration is respectfully requested. In the event any issues remain, Applicants would appreciate the courtesy of a telephone call to their counsel to resolve such issues and place all claims in condition for allowance.

It is believed that all necessary fees are enclosed. However, if any additional fees are determined to be required to enter this response or maintain this application as pending, the Commissioner is hereby authorized to charge these fees to the undersigned's **Deposit Account No. 50-0206**.

Respectfully submitted,

HUNTON & WILLIAMS LLP

Date: March 27, 2007

By:   
Robin L. Teskin  
Registration No. 35,030

Christopher J. Nichols, Ph.D.  
Registration No. 55,984

Hunton and Williams, LLP  
Litigation & Intellectual Property  
1900 K Street, N.W., Suite 1200  
Washington, D.C. 20006-1109  
(202) 955-1500 (Telephone)  
(202) 778-2201 (Facsimile)

RLT/CJN:cdh